



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,135	11/19/2003	Rongxin Pan	USP2293C-DRSH	9079
30265	7590	09/30/2005	EXAMINER	
RAYMOND Y. CHAN 108 N. YNEZ AVE., SUITE 128 MONTEREY PARK, CA 91754			RIELLEY, ELIZABETH A	
			ART UNIT	PAPER NUMBER
			2879	
DATE MAILED: 09/30/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/718,135	PAN ET AL.	
	Examiner	Art Unit	
	Elizabeth A. Rielley	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A Spiral Illuminable Unit with embedded conductor enclosure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5, 6, 11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al (US 6437502) in view of Iiyas et al (US 6633128).

In regard to claim 1, Nishio et al ('502) teach an illuminable unit, comprising: a light tube (18; figure 5; column 12 line 14 - column 13 line 18) and two end portions downwardly extended there from (41; figure 11; column 22 line 59 – column 24 line 49), wherein said light tube further has a light cavity containing a mercury source therein and filling with inert gas (column 12 lines 14-38), and a phosphor layer coated on an inner wall of said light tube (column 12 lines 14-38); a cathode terminal supported at one of said end portions of said light tube (cathode 45; not numbered; see figure 5); a conductor enclosure, which has a length approximately equal to a length of each said end portion of said light tube (see figure 5; not numbered), having an upper head portion sealed mounted within said respective end portion of said light tube in a concealed manner so as to substantially reduce an overall height of said illuminable unit (see figure 5); and a conductor wire (48) electrically extended from said cathode terminal to an exterior of said light tube for electrifying said mercury source while electrical connection, wherein said conductor wire is extended through said conductor enclosure so as to retain said conductor wire in position within said end portion of said light tube (see figure 5). Nishio et al ('502) teach that the spiral shape is too expensive to manufacture (column 1 lines 54-67). Iiyas et al ('128) teach a light tube having a spiral-shaped light body (figure 1; abstract) that is manufactured in an economical way (column 1 lines 14-55). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light emitting unit of Nishio et al ('502) with the shape of the light tube as taught by Iiyas et al ('128). Motivation to combine would be to manufacture the light device in an economical way.

In regard to claim 2, Nishio et al ('502) teach the conductor enclosure is sealed at a bottom end of said end portion of said light tube to conceal said head portion of said conductor enclosure within said end portion of said light tube, so as to seal said light cavity in an air tight manner (see figure 5; column 4 lines 3-22).

In regard to claims 5 and 6, Nishio et al ('502) teach the conductor enclosure has an inner gas exhausting passage communicating with said light cavity (41; figure 5; column 14 lines 26-42).

In regard to claims 11 and 14, Nishio et al ('502) teach the mercury source is amalgam integral with said light tube (column 2 line 53 – column 3 line 13).

Claims 3, 4, 7, 12, 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al (US 6437502) in view of Iiyas et al (US 6633128) and in further view of Gruzdev et al (US 3551742).

In regard to claims 3 and 4, Nishio/Iiyas teach all the limitations set forth, as described above, except the conductor wire is coaxially extended with respect to said end portion of said light tube through said conductor enclosure. Gruzdev et al ('742) teach a conductor wire is coaxially extended with respect to said end portion of a light tube (3; figure 1; column 1 line 45 to column 2 line 36) through a conductor enclosure (4) in order to increase the efficiency of the light emitting device (column 1 lines 1-17). Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light device of Nishio/Iiyas with the wire configuration of Gruzdev et al ('742). Motivation to combine would be to increase the efficiency of the light-emitting device.

In regard to claim 7, Nishio et al ('502) teach the conductor enclosure has an inner gas exhausting passage communicating with said light cavity (41; figure 5; column 14 lines 26-42).

In regard to claims 12, 13, 15, and 16, Nishio et al ('502) teach the mercury source is amalgam integral with said light tube (column 2 line 53 – column 3 line 13).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al (US 6437502) in view of Iiyas et al (US 6633128) and in further view of Yorifuji et al (US 6337539).

Nishio/Iiyas teach all the limitations, as described above, except the use of liquid mercury as the mercury source. Yorifuji et al ('539) teach the use of liquid mercury as the mercury source (column 5 lines 40-67) in order to easier assemble the device. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light emitting device of Nishio/Iiyas with the mercury source as taught by Yorifuji. Motivation to combine would be to assemble the light emitting device with greater ease.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishio et al (US 6437502) in view of Iiyas et al (US 6633128) in view of Gruzdev et al (US 3551742) and in further view of Yorifuji et al (US 6337539).

Nishio/Iiyas/Gruzdev teach all the limitations, as described above, except the use of liquid mercury as the mercury source. Yorifuji et al ('539) teach the use of liquid mercury as the mercury source (column 5 lines 40-67) in order to easier assemble the device. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the light emitting device of Nishio/Iiyas with the mercury source as taught by Yorifuji. Motivation to combine would be to assemble the light-emitting device with greater ease.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Elizabeth Rielley

Examiner
Art Unit 2879


MARICELI SANTIAGO
PRIMARY EXAMINER